

Dr (Mrs) Vimal Rarh

Head and Assistant Professor
Department of Chemistry
S.G.T.B. Khalsa College
University of Delhi
(Jan 2006 onwards)

Date of Birth: 9th October, 1969

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Marital Status: Married

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Educational Achievements:

- **Post-Doctorate, IIT Delhi, 1997-1998**
- **Ph.D. (Chemistry): *Delhi University, 1996***
- **NET, Qualified the joint CSIR- UGC examination for JRF and eligibility for Lectureship, Dec. 1991.**
- **M.Sc. (Chemistry): *Delhi University, 1992*, First Division**
- **B.Sc., *Delhi University, 1990*, First Division**

Administrative Experience

Around Two Years as Academic Secretary, ICT at Institute of Lifelong Learning, University of Delhi (On deputation from Jan 2009- April 2011)

Academic Honours:

- Junior Research Fellowship (1992-1994) from CSIR_UGC
- Senior Research Fellowship (1994-1996) from CSIR_UGC

Teaching Experience:

- **Total Teaching experience:** About Eleven years at IIT Delhi and various DU colleges for B.Tech, B.Sc (Honours and Programme) courses.

Experience in the field of e-Learning and Portal Management

- Research in **e-Learning Technologies**.
- **10 years of experience** in developing and coordinating the preparation of e-Learning Material for various e-learning portals for class IX to XII, IIT-JEE and Medical aspirants.
- Participated in **many National and International conferences and workshops** for understanding and delivering talks on many aspects of e-Learning Technologies like Instructional designing, Web and LAN hosting, Learning and Content Management Systems , online assessments etc.
- **Delivered many lectures** on ICT integration with Higher Education in Delhi University, ILLL initiatives for e-Learning in DU etc in Orientation and Refresher courses at CPDHE.
- **Contributions at Institute of Lifelong Learning, University of Delhi**
 - **Overall Incharge** for the Web and Print section to cater to the needs of entire Delhi University. Managing a team of around 30 employees comprising of software experts, animation team, administrative team, uploading team, data-entry team and testing team for the portal.
 - **Institute Website(www.illl.ac.in)** : Incharge for this website for Institute of Lifelong Learning which she has designed in JOOMLA, an open source Content Management System.
 - **Delhi University's e-Learning Portal:** Incharge of the **Delhi University's e-Learning Portal** (www.illlду.edu.in). This portal has been made using

MOODLE as the **Learning Management System (LMS)** which is an open source software. MOODLE is being customized in functionality and look and feel to suit the needs of Delhi University.

- Main contributor in evolving a unique scalable methodology for the development of e-content. The process of development of e-content at the Higher Education level has been evolved from a scratch and currently the model ready is scalable to handle any volume of data
- Evolved teacher friendly document/ presentation *input templates* for the content developers.
- Designed and developed unique Output templates which are SCORM compliant packages and have a blend of different technologies like html, flash, js, CSS, flv, etc.
- **Coordinated the development and uploading of e-content** in the portal and designed the entire portal.
- **Overall Quiz Coordinator and e-Lab Coordinator** and has designed the unique templates for e-quizzes, e-Lessons and e-Lab.
- Contributed around 110 questions as author for CH:103 Chemistry for portal; authored one chapter : Stereochemistry for the web as well as the print form for B.Sc programme CH-103, first year. She has also contributed many value additions in e-lessons in Chemistry. Uploaded and available at www.illldu.edu.in
- Authored a multimedia enriched video lecture (e-lecture) on Stereochemistry: D and L configurations
- **Delivered many lectures** on ILLL initiatives for e-Learning in DU and motivation of teachers for contribution in e-content development in various Delhi University Colleges.

- **Incharge for Delhi University's First ever ONLINE EXAMINATION**, for B.Sc Programme, Environmental Studies (ES 111)
 - For around 2300 students across 27 colleges held at 3 centres from 8th June -13th June 2009
 - For around 3800 students across 27 colleges held at 7 centres from 8th-17th June 2010.
- **Coordinated various ICT Workshops**
 1. ***ILLL-Microsoft Workshops***
 - Programme Coordinator for the Tier-I and Tier-II of ICT Capacity building in Delhi University.
Tier – I : 110 Teachers from various Delhi University Colleges (2-3 from each college) trained as Master trainers
Tier – II : Coordinated the training of around 3000 DU teachers across 42 DU colleges with the help of Master Trainers and acted as a Resource person for delivering lecture in these workshops.
 2. ***Workshops for development of e-Learning material:***
 Conducted many hands-on workshops for teachers involved in the development of e-Learning Material for the DU e-Learning Portal.
 3. **Other Workshops:** Coordinator of **5 day 3D animation Workshop** (June 26 - July 02, 2010) for Teachers, students, and IT representatives from IITs, IGNOU and various schools organized by Ministry of Human Resource and Development (MHRD) with the help of Autodesk at Institute of Lifelong Learning (ILLL), Delhi University to offer hands-on experience in the field of animation.

e-Content development Project under National Mission on Education through ICT (MHRD, Govt of India project)

Worked as ICT Incharge for the development of e-content and for LMS-MOODLE deployment, customization and management for the

Pilot project in e-content development for 14 annual papers for 7 disciplines under the guidance of Prof A.K. Bakhshi, Director, ILL as Project Investigator. (May 2009 to December 2010)

Other Experiences in the field of e-Learning

- **Attended** a 10 day Refresher Course *cum* Workshop in "**E-content Development & Delivery**" from 24th June to 3rd July, 2008 at *Indian Institute of Information Technology, Allahabad (IIITA)*.
The main features were: Creation, analysis and Up-gradation of Educational Web Portals. Instructional designing and Usability guidelines for web developers.
- **Authored** two chapters for the "**National Science Digital Library project**" of **NISCARE**, a division of CSIR, with the active collaboration of UGC and Ministry of HRD. Developed two chapters entitled "*Nitrogen compounds*" and "*Synthesis via enolate ions*" for the **undergraduate** level.
Available at : <http://nsdl.niscair.res.in/>
- **Authored** one chapter (Class XII Chemistry, CBSE curriculum) for the "**CBSE helpline project**" at www.sakshat.ac.in , a joint effort by the **Ministry of Human Resource Development, Delhi University and IGNOU**, New Delhi.
- In the Core Team as **Author** for developing **the Additional Textual Material in Chemistry** for CBSE, Class XI and Class XII for the topics not covered in the NCERT text books. Available at <http://cbse.nic.in/welcome.htm>
- About **Six years** of *experience* in **e-content development** for various dot com's (Learning Universe Pvt. Ltd. (egurucool.com, a division of NIIT Ltd, examstutor.com, MBD alchemie).
 - **Developed, trained and supervised** a team of authors for developing the content including question bank, animations , power point presentations, video's , java applets, etc for CBSE (9th to 12th grade) , GCSE (A and O level), IIT-JEE and Medical entrance examinations.

Skills for e-learning field In Brief

- Varied work experience in the field of e-learning technologies, instructional designing and education.
- Thorough understanding of the domain and close familiarity with the entire cycle of e-learning portal and course development.
- Ability to handle a wide spectrum of courses/domains.
- Familiarity with Learning Management Systems, Content authoring tools, and relevant computer and Internet technologies.
- Excellent communication, editorial and interpersonal skills.
- Ability to
 - Deliver projects on schedule
 - Deliver projects as per quality requirements
 - Generate design standards/Processes for production
 - Engage in brainstorming sessions
 - Handle and build Vendors
 - Manage and lead teams
 - Keep abreast of new trends in e-learning

Computer Knowledge:

- A good working knowledge of the following
 - *Management of LMS and CMS. Specialised in MOODLE*
 - Open and proprietary Office packages
 - MS_Corel Draw
 - Adobe Pagemaker , Texnic (Publishing software)
 - Adobe Photoshop (for diagrams)
 - Macromedia Flash (for animations)
 - Gif animator (for animations)
 - Avid Tool (for adding/editing text on videos)
 - Microsoft Adobe-pro (for adding/editing text on videos)
 - Isis Draw (for making chemistry diagrams)
 - Chem Draw (for making chemistry diagrams)
 - Chime (for visualizing 3-D molecules)
 - Rasmol (for visualizing 3-D molecules)

- Java applets (for interactive animations)
- Macromedia Dreamweaver , Moodle (an open source Learning management system), for Web development.

Research Experience and Guidance to Research scholars

➤ Synthetic Organic Chemistry

- **Four years** of *Research experience* during Ph.D. Topic: **“Synthetic studies on chalcones and dihydrochalcones”** During this time two research papers were published in national and international journals.
- **One year** of *Post doctoral research work* at IIT, Delhi as a Research Associate, in the project entitled **“Studies towards enantioselective synthesis of prenylated quinolinone alkaloids”** During this time, three research papers were published in International journals.

➤ Forensic Chemistry

- **Co- guided** two M.Phil students, at S.G.T.B. Khalsa College, Delhi University, in 2007-08 in the field of “Potential fingerprint detecting agents”.
- **Co-Investigator** in UGC project entitled. Under this project Two research papers and one patent communicated.

➤ e-Learning

- **Methodologies evolved** for the development of e-content for Higher Education under the **Project on e-Content development Project** under National Mission on Education through ICT (MHRD, Govt of India project). Worked as Incharge of multi-media conversion and uploading of e-content. One research paper accepted, two submitted.
- **Co-Guiding** a Ph.D student in the broad area of e-learning content development and management.

➤ **Research Publications/articles/patents**

1. “ *Selective esterification of non-conjugated carboxylic acids in the presence of conjugated or aromatic carboxylic acids under mild conditions*” **Journal of Chemical Research (S)**, 1999, 378-9.
2. “ *A mild and convenient procedure for the esterification of amino acids*” **Synthetic Communications**, 1998, 20A, 1963.
3. “ *A convenient and mild procedure for the reduction of amino acids using Amberlyst 15-NaBH₄-LiCl*” **Tetrahedron Letters**, 1998, 39, 917-8.
4. “ *New observations on deprotection of O-benzyl derivatives with Pd/C-cyclohexene*” **Synthetic Communications**, 1995, 25(13), 1901-6.
5. “ *A simple and efficient conversion of chalcones to dihydrochalcones*” **Indian Journal of Chemistry**, 1994, 33B, 163-5.

Patent : A vapor phase formulation and a process for detecting latent fingerprints on different surfaces.

Gurvinder Kaur, **Vimal Rarh** and G.S. Sodhi

Indian Patent; Filed on September 27, 2010

3 Papers communicated.

International Conferences/Seminars

- Organised the **International Symposium on Advances in Fingerprint Technology** held at S.G.T.B. Khalsa College, University of Delhi during February 14–15, 2006.
- Participated in the *The 21st Century Campus* at the **Global Education and Skill Summit 2010** of the **World Didac 2010 INDIA** held at Bombay Exhibition Centre, Goregaon during September 23rd – 25th September 2010.

- Participated in the Exhibition & conference '**WORLDDIDAC INDIA 2010**' held on 23rd to 25th September at Bombay Exhibition Centre, Mumbai, India.

National Conferences/Seminars

- **Attended National Symposium in Chemistry** held at the Department of Chemistry, University of **Delhi**, Delhi during the period Feb.1-4, 2007.
- **Attended the 5th e-India 2009 Conference** at Hyderabad on 26-27th August, 2009.
- Attended a Conference on **Online Examinations: Demystifying the Future** at India Habitat Centre, New Delhi on September 2, 2009.
- Invited to a **Brainstorming Session** of the National Project on '**Enrichment of Resource Material for Science Education**' of the Ministry of Science and Technology, Govt. of India, UNESCO and CIE, Delhi University on September 4, 2009 at UNDP Hall, New Delhi.
- Attended a Conference on Emerging Directions in Global Education (EDGE) 2010 held at India Habitat Centre, New Delhi during March 3–5, 2010.
- Participated in the **Invited Talk on Science Education in the 21st Century** at the **National Conference on Science and Mathematics Education in Secondary Schools** organized by the **SRF Foundation** and the **Ministry of Human Resource Development (MHRD)**, Govt. of India at India Habitat Centre, New Delhi during June 30–July 2, 2008.
- Attended **Ideas India 2008** Conference during December 17-20, 2008 at Taj Palace Hotel, New Delhi.
- **Attended the 6th e INDIA Hyderabad - 4th to 6th AUG, 2010**

- Attended a Conference on **Emerging Directions in Global Education** (EDGE) 2010 held at India Habitat Centre, New Delhi during March 3–5, 2010.
- Participated in Launch of **FICCI – MSME INTELLECTUAL PROPERTY FACILITATION CENTRE (IPFC) at FICCI**, Federation House, Tansen Marg, New Delhi on 17th August, 2010, 10:30 a.m.
- Attended the discussion **“Developing Deeper Educational Access through ICT** organized by on 8th April, 2010 at The Park Hotel, Parliament Street, New Delhi.
- Attended the **Microsoft Cloud Forum** held on March 16, 2010, at Hotel Le Meridien, New Delhi
- Attended the discussion on **Blended Learning : How can Technology Change Education Landscape** in the **Economic Times Advantage** held on 9th December, 2010 at Le Meridien Hotel , New Delhi
- Attended the ‘Higher Education Summit 2011, on 5th February at The Claridges, New Delhi

Others:

- **Trained teachers** of Kendriya Vidyalaya Schools, promoted from TGT to PGT in conducted from time to time jointly by NCERT and CBSE.
- **Honorary Author** for articles in a School magazine (**My99**, launched recently)
- **Honorary Expert for Chemistry** in a talk show **“Imtihan se Carrier tak”** on air at **Delhi Aaj Tak**. (Dec’06 –Jan’07). The show targeted CBSE class X and XII students regarding how to prepare and be stress free for Board examinations.
- **Invited as a Resource Person** for Chemistry Teachers (+2) under the

Performance Enhancement Programme arranged by **Directorate of Project Planning & In service (DPPI)** DAV College Management Committee at DAV Public School, Chandigarh.

- **Invited as a Resource Person** for Chemistry Teachers (+2) at Delhi Level, at the **CHEMISTRY WORKSHOP HELD ON 17TH & 18TH SEPTEMBER 2009** arranged by DPS School, R.K.Puram, Delhi. Talked on **“Chemistry of Aromatic Compounds”**
Details at:
http://www.dpsrkp.net/workshop_n_conferences_chemistry.htm
- **Invited as a Resource Person** for Chemistry Teachers (+2) at National Level for Conceptual understanding of Chemistry at Senior secondary level” arranged at HRD Centre, DPS, Dwarka from 4- 7 November 2009. Talked on **“Aromaticity and Some common misconceptions in Organic Chemistry”**.
- As Resource person in **“Chemistry Teachers workshop for PGTs”** at Sanskriti school, 25th sept 2010.